

FORM PTO-1449
(Rev. 2-32)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.

05-720-US1

Serial No.

10/559,979

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicant:

Kouvetakis, et al.

Filing Date:

December 8, 2005

Group:

2814

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
82	1.	US 2003-0157787 A1	August 21, 2003	Murthy, et al.			
	2.	US 2006-0134895 A1	June 22, 2006	Kouvetakis, et al.			
	3.	US 2006-0236923 A1	October 26, 2006	Kouvetakis, et al.			
	4.	6,911,084	June 28, 2005	Kouvetakis, et al.			
	5.	5,532,183	July 2, 1996	Sugawara, et al.			
	6.	5,198,387	March 30, 1993	Tang, et al.			
	7.	5,714,415	February 3, 1998	Oguro			
	8.	6,410,434	June 25, 2002	Mani			
	9.	6,723,621	April 20, 2004	Cordone, et al.			
	10.	6,897,471	May 24, 2005	Soref, et al.			
SL	11.	6,441,716	August 27, 2002	Doppalapudi, et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

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SM	12.	WO 2005/001902	January 6, 2005	PCT				
	13.	WO 2004/114368	December 29, 2004	PCT				
	14.	WO 2005/015609	February 17, 2005	PCT				
	15.	WO 2003/033781	April 24, 2003	PCT				
S	16.	WO 2006/009171	January 26, 2006	PCT				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

Examiner Initial		
SM	17.	D. W. Jenkins, "Electronic properties of metastable GexSn1-x alloys", Phys. Rev. B., Vol: 36, pp. 7994-8001 (1987).
	18.	K. A. Mader, "Band structure and instability of GexSn1-x alloys", Solid State Commun., Vol: 69 (12), pp. 1123-1126 (1989).
	19.	G. He and H.A. Atwater, "Interband transitions in Sn _x Ge _{1-x} Alloys", Phys. Rev. Lett., Vol: 79(10), pp. 1937-1940 (1997).
	20.	O. Gurdal, R. Desjardins, J. R. A. Carlsson, N. Taylor, H. H. Radamson, J.-E. Sundgren, and J. E. Greene, "Low-temperature growth and critical epitaxial thicknesses of fully strained metastable Ge1-x Snx (x ≤ 0.26) alloys", J. Appl. Phys., Vol: 83(1), pp. 162-170 (1998).
S	21.	M. T. Asom, E. A. Fitzgerald, A. R. Kortan, B. Spear, and L. C. Kimerling, "Epitaxial Growth of SnGe Alloys", Appl. Phys. Lett., Vol: 55(6), pp. 578-580 (1989).

EXAMINER	DATE CONSIDERED
	3/2/07

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SL	22.	H. Höchst, M. A. Engelhardt, and D. W. Niles, "The MBE growth and electronic structure of α -Sn _x Ge _{1-x} alloys", SPIE Proceedings, Vol: 1106, pp. 165-171 (1989)(ABSTRACT).
	23.	C. A. Hoffman, et al., "Three-Band transport and cyclotron resonance in alpha -Sn and alpha -Sn _{1-x} Ge _x grown by molecular-beam epitaxy", Phys. Rev. B. Vol: 40(17): pp. 11693-11700, (1989).
	24.	W. Wegscheider, K. Eberl, U. Menezgar, and G. Abstreiter, "Single-crystal Sn/Ge superlattices on Ge substrates: Growth and structural properties", Appl. Phys. Lett., Vol: 57(9), pp. 875-877 (1990).
	25.	O. Gurdal, et al., "Growth of metastable Ge _{1-x} Sn _x /Ge stratined layer superlattices on Ge(001)2x1 by temperature-modulated molecular beam epitaxy", Appl. Phys. Lett., Vol: 67(7), pp. 956-958 (1995).
	26.	P. R. Pukite, A. Harwit, and S. S. Iyer, "Molecular beam epitaxy of metastable, diamond structure Sn _x Ge _{1-x} alloys", Appl. Phys. Lett. 54(21), pp. 2142-2144 (1989).
	27.	M. Bauer, et al., "Ge-Sn semiconductors for band-gap and lattice engineering", Appl. Phys. Lett. 81(16), pp. 2992-2994 (2002).
	28.	L. Bellaiche, S.-H. Wei and Z. Zunger, "Localization and percolation in semiconductor alloys: GaAsN vs GaAsP", Phys. Rev. B 54, 17568-17576 (1996).
	29.	J. Taraci, J. Tolle, M. R. M. Cartney, J. Menendez, M. A. Santana, D. J. Smith, and J. Kouvetakis, "Simple chemical routes to diamond-cubic germanium-tin alloys", App. Phys. Lett. 78(23), pp. 3607-3609 (2001).
E	30.	J. Taraci, S. Zollner, M. R. McCartney, J. Menéndez, M. A. Santana, D. J. Smith, A. Haaland, A. V. Tutukin, G. Gundersen, G. Wolf, and J. Kouvetakis, "Synthesis of silicon-based infrared semiconductors in the Ge-Sn system using molecular chemistry methods", J. of the Am. Chem. Soc., Vol: 123(44), pp. 10980-10987 (2001).

EXAMINER _____	DATE CONSIDERED 3/2/07
-----------------------	-------------------------------

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CL	31.	V. Alluri, N. Herbots, D. Dagel, H. Jacobsson, M. Johnson, R. Carpio, and B. Fowler, "Comparison and reproducibility of H-passivation of Si(1000) with HF in methanol, ethanol, isopropanol and water by IBA, TMAFM, and FTIR", Mater. Res. Soc. Symp. Proc. 477, pp. 281-292 (1997) (ABSTRACT).
	32.	Z. Charafi and N. Bouarissa, "The effect of the violation of Vegard's law on the optical bowing in Si _{1-x} Ge _x alloys", Phys. Lett. A. Vol: 234, pp. 493-497 (1997).
	33.	H. Kajiyama, S-I. Muramatsu, T. Shimada, and Y. Nishino, "Bond-length relaxation in crystalline Si _{1-x} Ge _x alloys: An extended x-ray-absorption fine-structure study", Phys. Rev. B Vol: 45(24), pp. 14005-14010 (1992).
	34.	F. Cerdeira, W. Dreyrodt, and M. Cardona, "Resonant raman scattering in germanium", Solid State Commun., Vol: 10, 591-595 (1972).
	35.	M.M. McGibbon, N.D. Browning, M.F. Chisholm, A.J. McGibbon, S.J. Pennycook, V. Ravikumar, V.P. Dravid, "Direct determination of grain boundary atomic structure in SrTiO ₃ " Science, Vol: 266, pp. 102-104 (1994).
	36.	P. Mock, T. Topuria, N. D. Browning, G. R. Booker, N. J. Mason, R. J. Nicholas, M. Dobrowolska, S. Lee, and J. K. Furdyna, "Internal self-ordering in In(Sb,As), (In,Ga) Sb, and (Cd,Zn,Mn) Se nano-agglomerates/quantum dots", Appl. Phys. Lett., Vol: 79(7), pp. 946-948. (2001).
	37.	D.M. Ceperley, B.J. Alder, "Ground State of the Electron Gas by Stochastic Method", Phys. Rev. Lett., Vol: 45, pp. 566-569 (1980).
	38.	T G. Kresse and J. Hafner, "Ab initio molecular dynamics for liquid metals", Phys. Rev. B47(1), pp. R558-561 (1993).
S	39.	G. Kresse and J. Hafner, "Ab initio molecular-dynamics simulation of the liquid-metal-amorphous-semiconductor transition in germanium", Phys. Rev. B49(20), pp. 14251-14269 (1994).

EXAMINER _____	DATE CONSIDERED 3/2/02
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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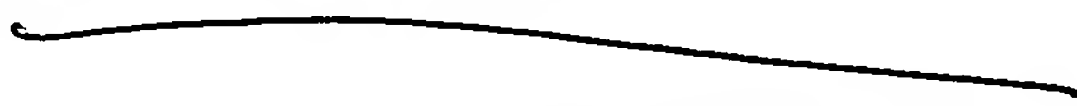
a	40.	G. Kresse, J. Furthmuller, "Efficiency of ab-initio total energy calculations for metals and semiconductors using a plane-wave basis set", Comput. Mater. Sci. Vol: 6, pp. 15-50 (1996).
	41.	G. Kresse, J. Furthmuller, "Efficient iterative schemes for ab initio total-energy calculations using a plane-wave basis set", Phys. Rev. B54(16), pp. 11169-11186 (1996).
	42.	R. A. Soref and L. Friedman, "Direct-gap Ge/GeSn/Si and GeSn/Ge/Si heterostructures", Superlattices and Microstructures, Vol: 14(2), 189-193 (1993).
	43.	M. R. Bauer, J. Kouvetakis, D.J. Smith and J. Menendez, "Tunable band structure in diamond cubic tin germanium alloys grown on Si", Solid State Commun., Vol: 127, 355-359 (2003).
	44.	M.R. Bauer, P. Crozier, A.V.G Chizmeshya and J. D. Smith and J. Kouvetakis, "GeSn superstructured materials for Si-based optoelectronics", Appl. Phys. Lett. Vol: 83, pp. 3489-3491 (2003).
	45.	M. Bauer et al., "Tunable band structure in diamond-cubic tin-germanium alloys grown on silicon substrates", Solid State Communications, Vol: 127 (2003), pp. 355-359.
	46.	S. Cradock, E. A. V. Ebsorth, G. Davidson, L. A. Woodard, "Studies in Germyl Chemistry.3. Trigermylphosphine", J. Chem. Soc. A, 8, pp. 1229-1233 (1967).
	47.	D. W. H. Rankin, A. G. E. Robiet, G. M. Sheldrick, 5 Beagley, T. G. Hewit, "An electron Diffraction of the Molecular Structures of Trigermylphosphine and Trisilylstibine in the Gas Phase" J. Inorg. Nucl. Chem., 31, pp. 2351-2357 (1969).
	48.	E. A. V. Ebsworth, D. J. Hutchison, D. W. H. Rankin, "The Preparation, properties, and Gas-Phase Molecular-Structure of 1,1- Difluoro-2,2-Digermylbiphosphone", J. Chem. Res., Synop, 12, pp. 393, (1980).
2	49.	E. A. V. Ebsworth, D. W. H. Rankin, G. M. Sheldrick, "Preparation and Properties of Trigermyl-arsine and -stibine", J. Chem. Soc. A, 11, pp. 2828-2830 (1968).

EXAMINER _____	DATE CONSIDERED 3/2/07
-----------------------	-------------------------------

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C1	50.	D. E. Wingeleth, A. D. Norman, "Redistribution of primary silyl-and germylphosphines; synthesis of trisilyl-and trigermylphosphines", Phosphorus Sulfur, 39(1-2), pp. 123-129, (1988).
	51.	G. A. Forsyth, D. W. H. Rankin, H. E. Robertson, "Determination of the molecular structure of Tris (Trimethylsilyl) phosphine in the gas phase by electron diffraction, supported by molecular mechanics calculations", J. Mol. Struct., Vol: 239, pp. 209-217, (1990).
	52.	H. Schumann, H. J. Kroth, "NMR-Untersuchungen an Organoelementen(IVb)-Phosphinen, 2. Substituenteneinflüsse auf die P-chemischen Verschiebungen von Trimethylelement (IVb)-phosphinen", Z. Naturforsch., B: Anorg. Chem., Chem. 32B, pp. 513-515, (1977).
	53.	G. Becker, H. Freudenblum, O. Mundt, M. Reti, M. Sachs, Synthetic Methods of Organometallic and Inorganic Chemistry, 3, pp. 193-198 (1996).
	54.	S. Schulz, M. Nieger, "Synthesis and characterization of organogallium-antimony compounds", J. of Organomet. Chem., Vol: 570, pp. 275-278 (1998).
	55.	H. Schumann, U. Frank, W. W. Du Mont, F. Marschner, "Organometallarsine", J. Organomet. Chem, Vol: 222, pp. 217-225 (1981).
	56.	M. Ates, H. J. Breunig, M. Denker, "Formation of (Me ₃ M) ₃ Sb (M = Ge, Sn, Pb) and (Me ₃ M) ₄ Sb ₂ (M = Pb) by reaction of (Me ₃ Si) ₃ Sb with Me ₃ MCl", Phosphorus, Sulfur Silicon Relate. Elem., Vol: 102, pp. 287-289 (1995).
	57.	H. Schumann, A. Roth, O. Stelzer, M. Schmidt, "Pyramidenformige Moleküle Mit Dem Atomskelett", Inorg. Nucl. Chem. Lett. 2, pp. 311-312, (1986).
	58.	G. Davidson, L. A. Woodward, E. A. V. Ebsworth, G. M. Sheldrick, "The vibrational spectra and structure of trisilylarsine and trisilylstibine", Spectrochim. Acta, Part A, Vol: 23, pp. 2609-2616, (1967).
S	59.	B. Beagley, A. G. Robiette, G. M. Sheldrick, "The Molecular Structures of (SiH ₃) ₃ P and (SiH ₃) ₃ As", Chem. Commun, 12, pp. 601-602 (1967).

EXAMINER 	DATE CONSIDERED 3/2/07
---	----------------------------------

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		Applicant: Kouvetakis, et al.	
		Filing Date: December 8, 2005	Group: 2814


51	60.	A. Blake, E. A. V. Ebsworth, S. G. D. Henderson, "Structure of trisilylphosphine, P(SiH ₃) _x , at 100 K", Acta Crystallogr., Sect. C: Cryst. Struct. Commun, C47, pp. 486-489, (1991).
	61.	H. Siebert, J. Eints, "Neuvermessung des schwingungsspektrums von trisilylphosphin", J. Mol. Struct. Vol: 4, pp. 23-28, (1969).
	62.	D. C. McKean, "On the spectroscopic evidence for geometry in (SiH ₃) ₃ P and (SiH ₃) ₃ As", Spectrochim. Acta, Part A, Vol: 24A, pp. 1253-1254 (1968).
	63.	J. E. Drake, J. Simpson, "Reactions of Monosilylarsine with Some Boron Lewis Acids and the Reaction of Monosilylphosphine with Boron Tribromide", J. Chem. Soc. A, 5, pp. 1039-1043 (1968).
	64.	E. H. Parker and T. E. Whall, "SiGe heterostructure CMOS circuits and applications", Solid State Electronics 43(8), pp. 1497-1506 (1999).
	65.	R. A. Soref and C. H. Perry, "Predicted band gap of the new semiconductor SiGeSn", J. Appl. Phys. 69, pp. 539-541 (1991).
	66.	K. A. Johnson and N. W. Ashcroft, "Electronic structure of ordered silicon alloys: Direct-gap systems", Phys. Rev. B 54, pp. 14480-14486 (1996).
	67.	A. R. Kost, in Infrared-Applications-of-Semiconductors-II. Symposium, (Mater. Res. Soc., 1998). pp. 3-10 (ABSTRACT).
	68.	A. W. Bett, F. Dimroth, G. Stollwerck, and O. V. Sulima, "III-V compounds for solar cell applications", Appl. Phys. A: materials Science & Processing, Vol: 69(2), pp. 119-129 (1999).
	69.	R. Gaska, A. Zukauskas, M. S. Shur, and M. A. Khan, "Progress in III-nitride based white light sources", Proceedings of the SPIE, Vol: 4776, pp. 82-96 (2002).
2	70.	R. Bauer, C. Ritter, P. Crozier, J. Menendez, J. Ren, and J. Kouvetakis, "Synthesis of ternary Si-Ge-Sn semiconductors on Si(100) via Sn _x Ge _{1-x} buffer layers", Appl. Phys. Lett. 83 (11), 2163-2165 (2003).

EXAMINER 	DATE CONSIDERED 3/2/07
---	----------------------------------

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C	71.	H.K. Shin, D.J. Lockwood, J.-M. Baribeau, "Strain in coherent-wave SiGe/Si superlattices", Solid State Commun., Vol: 114(10), pp. 505-510 (2000).
	72.	M. Meléndez-Lira, J. D. Lorentzen, J. Menéndez, W. Windl, N. Cave, R. Liu, J. W. Christiansen, N. D. Theodore, and J. J. Candelaria, "Microscopic carbon distribution in Si _{1-y} C _y alloys: A Raman scattering study", Phys. Rev. B 56, pp. 3648-3650 (1997).
	73.	C.S. Cook, S. Zollner, M.R. Bauer, P. Aella, J. Kouvetakis, and J. Menendez, "Optical constants and interband transitions of Ge _{1-x} Sn _x alloys (x < 0.2) grown on Si by UHV-CVD", Thin Solid Films 455-456, pp. 217-221 (2004).
	74.	Chizmeshya, et al., "Experimental and Theoretical study of deviations from Vegards Law in the Ge _{1-x} Ge _{1-x} system", Chem. Of Matls., Vol: 15, pp. 2511-2519 (2003).
	75.	Aella, et al., "Structural and optical properties of Sn _x Si _y Ge _{1-x-y} alloys", App. Phys. Lett. Vol: 84, pp. 888-890 (2004).
	76.	Roucka, et al., "Versatile buffer layer architectures based on Ge _{1-x} Sn _x alloys", Appl. Phys. Let. Vol: 86(19), pp. 191912-191914 (2005).
	77.	He, et al., "Synthesis of expitaxial Sn _x Ge _{1-x} alloy films by ion-assisted molecular beam epitaxy", App. Phys. Lett., Vol: 68(5), pp. 664-666 (1996). Pristovsek, et al., "Growth of strained gaAsSb layers on GaAs (001) by MOVPE", Journal of Crystal Growth, Vol: 276, pp. 347-353 (2005).
	78.	Pristovsek, et al., "Growth of strained gaAsSb layers on GaAs (001) by MOVPE", Journal of Crystal Growth, Vol: 276, pp. 347-353 (2005).
	79.	Wosinski, et al., "Deep levels caused by misfit dislocations in gaAsSb/GaAs heterostructures", Appl. Phys. Lett., Vol: 67(8), pp. 1131-1133.
S	80.	Dvorak, et al., "300 GHz InP/GaAsSb/InP double HBTs with high current capability and BVCEO < 6V", IEEE Electron Device Letters, Vol: 22(8), pp. 361-363 (2001).

EXAMINER 	DATE CONSIDERED 3/2/07
---	----------------------------------

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81.	Ryu Sang-Wan, et al., "Optical characterization and determination of conduction band offset of type-II GaAsSb/InGaAs QW", Semiconductor Science and Technology, Vol: 19, pp. 1369-1372 (2004).
82.	Dowd, et al., "Long wavelength GaAsP/GaAs/GaAsSb VCSELs on GaAs substrates for communication applications", Electronics Letters, Vol: 39(13), pp. 987-988 (2003).
83.	Zheng, et al., "Demonstration of High-Speed staggered lineup GaAsSb-InP Unitraveling Carrier Photodiodes", IEEE Photonics Technology Letters, Vol: 17(3), pp. 651-653 (2005).
84.	Sun, et al., "GaAsSb: a novel material for near infrared photodetectors on GaAs substrates", Selected Topics in Quantum Electronics, IEEE Journal, Vol: 8(4), pp. 817-822 (2002).
85.	Kaniewski J., et al., "Resonant cavity enhanced InGaAs photodiodes for high speed detection of 1.55 μ m infrared radiation", Proceedings of SPIE-The International Society for Optical Engineering (2005), Vol: 5783 (Pt. 1, Infrared Technology and Applications XXXI), pp. 47-56.
86.	Kang, Y., et al., "InGaAs-on-Si single photon avalanche photodetectors", Applied Physics Letters (2004), 85(10), pp. 1668-1670.
87.	Kim S., et al., "High Performance 0.1 μ m GaAs Pseudomorphic High Electron Mobility Transistors with Si Pulse-Doped Cap Layer for 77GHz Car Radar Applications", Jpn. J. App. Phys. 44, pp. 2472-2475 (2005).
88.	Cristea P., et al., "Growth of AlAsSb/InGaAs MBE-layers for all-optical switches", J. Cryst. Growth 278(1-4), pp. 544-547 (2005).
89.	Li Y.J., et al., "Improved characteristics of metamorphic InAlAs/InGaAs high electron mobility transistor with symmetric graded In _x Ga _{1-x} As channel", J. of Vac. Sci. Tech. B 22(5), pp. 2429-2433 (2004).
90.	Mao R. W., et al., "Fabrication of 1.55 μ m Si-Based Resonant Cavity Enhanced Photodetectors Using Sol-Gel Bonding" IEEE Photonics Technology Letters 16(8), pp. 1930-1932 (2004).
91.	Pauchard A., et al., "Wafer-bonded InGaAs/silicon avalanche photodiodes", Proceedings of SPIE-The International Society for Optical Engineering, Vol: 4650 (Photodetector Materials and Devices VII), pp. 37-43 (2002).

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54	92.	Takano Y., et al., "Residual strain and threading dislocation density in InGaAs layers grown on Si substrates by metalorganic vapor-phase epitaxy", Appl. Phys. Lett., Vol: 78(1), pp. 93-95 (2001).
	93.	Chriqui Y., et al., "Long wavelength room temperature laser operation of a strained InGaAs/GaAs quantum well structure monolithically grown by metalorganic chemical vapour deposition on a low energy-plasma enhanced chemical vapour deposition graded misoriented Ge/Si virtual substrate", Optical Materials, Vol: 27, pp. 846-850 (2005).
	94.	V.K. Yang, et al., "Comparison of luminescent efficiency of InGaAs quantum well structures grown on Si, GaAs, Ge, and SiGe virtual substrate", J. Appl. Phys., Vol: 93(9), pp. 5095-5102 (2003).
	95.	Shiu Fai Li, et al., "Scaling law for the compositional dependence of Raman frequencies in GeSi and SnGe alloys, Appl. Phys. Lett., Vol: 84, pp. 867-869 (2004).
	96.	Cook, et al., "Optical constants and interband transitions of Ge _{1-x} Sn _x alloys (x<0.2) grown on Si", In press Thin Solid Films, Vol: 455-456, pp. 217-221 (2004).
	97.	Menendez, et al., "Type-I Ge/Ge _{1-x-y} Si _x Sn _y strained-layer heterostructures with a direct Ge band gap, Appl. Phys. Lett., Vol: 85(7), pp. 1175-1177 (2004).
	98.	Park, et al., "Observation of large stark shift in Ge _x Si _{1-x} /Si multiple quantum wells", J. Vac. Sci. Technol. B, Vol: 8(2), pp. 217-220 (1990).
	99.	Baier, et al., "Type-II band alignment in Si/Si _{1-x} Ge _x quantum wells from photoluminescence line shifts due to optically induced band-bending effects: Experiment and theory", Phys. Rev. B, Vol: 50(20), pp. 15191-15196 (1994).
	100.	Temkin, et al., "Ge _x Si _{1-x} strained-layer superlattice waveguide photodetectors operating near 1.3 μ m", Appl. Phys. Lett., Vol: 48(15), pp. 963-965 (1986).
5	101.	Li, et al., (2000), "Observation of quantum-confined stark shifts in SiGe/Si type-I multiple quantum wells", J. Appl. Phys. Vol: 87(11), pp. 8195-8197.

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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. 05-720-US1	Serial No. 10/559,979
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant: Kouvetakis, et al.	
		Filing Date: December 8, 2005	Group: 2814

54	102.	Miyake, et al., "Absence of stark shift in strained Si _{1-x} Ge _x /Si type-I quantum wells", Appl. Phys. Lett., Vol: 68(15), pp. 2097-2099 (1996).
	103.	O. Qasaimeh, et al., (1997), "Electroabsorption and Electrooptic Effect in SiGe-Si Quantum Wells: Realization of Low-Voltage Optical Modulators", IEEE J. Quantum Electron, Vol: 33 (99), pp. 1532-1536.
	104.	Jaros, "Simple analytic model for heterojunction band offsets", Phys. Rev. B. Vol: 37(12), pp. 7112-7114 (1988).
	105.	Tolle, et al., "Epitaxial growth of group III nitrides on Si substrates via a reflective lattice-matched zirconium diboride buffer layer", Appl. Phys. Lett., Vol: 82(15), pp. 2398-2400 (2003).
	106.	Hu, et al., "Nucleation and growth of epitaxial ZrB ₂ (0001) on Si(111)", Journal of Crystal Growth, Vol: 267, (2004) pp. 554-563.
	107.	Tolle, et al., "Epitaxial growth of AlGaN by metalorganic chemical vapor deposition on Si(111) via a ZrB ₂ (0001) buffer layer", Appl. Phys. Lett, Vol: 84(18), pp. 3510-3512 (2004).
	108.	R.F.C. Farrow et al., "The growth of metastable, heteroepitaxial films of α -Sn by metal beam epitaxy", J. Cryst. Growth, Vol: 54, pp. 507-518 (1981).
	109.	G Becker et al., "Notiz uber eine einfache methode zur darstellung von tris (trimethylsilyl)phosphin", Chem. Ber., Vol: 108, pp. 2484-2485 (1975).
	110.	H. Schumann et al., "Trimethylsilyldiphosphane", J. Organomet. Chem., Vol: 88, pp. C13-C16, (1975).
	111.	H. Schumann et al., "Eine einfache Methode zur Synthese von Organosilylphosphinen", J. Organometallic Chem. Vol: 55, pp. 257-260 (1973).
2	112.	H. Burger et al., "Schwingungsspektren und Kraftkonstanten von Silyl- und Trimethylsilyl-Verbindungen von Elementen der 5. Gruppe", Spectrochimica. Acta, Vol: 26A, pp. 671-683, (1970).

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			Filing Date: December 8, 2005	Group: 2814
			INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	

113.	H.J. Breunig et al., "Crystal structures of tris (trimethylsilyl) stibine and pentacarbonyl(tris(trimethylsilyl) stibine) chromium", Journal of Organometallic Chemistry, Vol: 608 (2000), pp. 60-62.
114.	L. Rosch et al., "Darstellung und untersuchung von phosphinkomplexen mit aluminiumtrichlorid und aluminiumtriathyl", Anorg. Allg. Chem, Vol: 426, pp. 99-106 (1976).
115.	H. Schumann et al., "Substituentenaustauschreaktionene zwischen Tris (Trimethylsilyl) phosphan und Trimethylgermanium- und Trimethylzinnchlorid", Z. Naturforsch., Vol:29B, 608-610 (1974).
116.	H. Schumann et al., "Darstellung und Schwingungsspektren von Trimethylsilyl-, Trimethylgermyl-und Trimethyl-stannyl-tert-butylphosphinen", Chem. Ber., Vol: 107, pp. 854-869 (1974).
117.	A.V.G. Engelhardt et al. Naturforsch., "Über die IR-, Raman-und ³¹ P-NMR-Spektren ciniger phosphinderivate von germanium und zinn", B: Anorg. Chem., Org. Chem., Biochem, Biophys., Biol. Vol: 22b, pp. 352-353 (1967).
118.	J.W. Anderson, J.E. Drake, "Trimethylstannylarsines", Canadian Journal of Chemistry, Vol: 49, pp. 2524-2528 (1971).
119.	E. Niecke, H. Westermann, "A simple method for the preparation of Tris (trimethylsilyl) phosphine", Synthesis, (1988), page 330.
120.	H.J. Breunig et al., Naturforsch., "Tetrakis (Trimethylsilyl) distiban", Z. Naturforsch., Vol: 34B, pp. 926-928 (1979).
121.	H.J. Breunig, "Synthese von Tetrakis (trimethylgermyl)-Distaiban", Z. Naturforsch., Vol: 33B, pp. 244-245, (1978).
122.	Spanier, et al., "The Synthesis of Germylsilane from Silane and German in a Silent Electric Discharge", Inorganic Chemistry, (1962), pp. 215-216

COMMONLY OWNED CO-PENDING APPLICATIONS

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42	1.	Kouvetakis, et al., U.S. Patent Application No. 10/559,980, Filed on December 8, 2005.
42	2.	Kouvetakis, et al., U.S. Patent Application No. 10/559,981, Filed on September 5, 2006 (Projected Publication date is January 11, 2007).

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